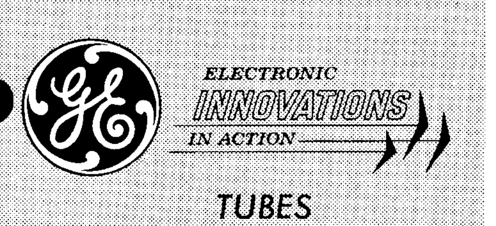


—PRODUCT INFORMATION—

6LQ6

Beam Pentode

FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

DARK HEATER — PLATE CURRENT 30 WATTS — NOVAR TYPE — OVERLOAD Pb 200 WATTS

The 6LQ6 is a double-ended high perveance beam power pentode. This tube is especially useful as a horizontal-deflection amplifier tube in color-TV receivers.

Features of the 6LQ6 are, the endurance of excessive plate dissipation, the withstanding of a 200 watt plate dissipation for a period of time sufficient enough to permit conventional receiver protection devices to function and the capability to meet the stringent requirements of color-television deflection circuits.

GENERAL

ELECTRICAL

Cathode – Coated Unipotential

Heater Characteristics and Ratings

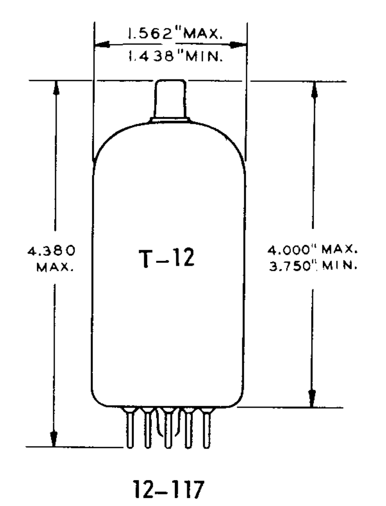
Heater Voltage, AC or DC	6.3	Volts
Heater Current	2.3	Amperes
Direct Interelectrode Capacitances •		
Grid No. 1 to Plate (G1 to P)	0.56	pF
Input G1 to (K,G3,G2,H)	22	pF
Output P to (K,G3,G2,H)	11	pF

MECHANICAL

Operating Position – Any
Envelope T–12
Base E9–88 Large Button Novar 9–Pin with Exhaust Tip
Top Cap C1–1 Small
Outline Drawing EIA 12–117

Maximum Diameter	1.562 Inches
Minimum Diameter	1.438 Inches
Maximum Over-all Length	4.380 Inches
Maximum Seated Height	4.000 Inches
Minimum Seated Height	3.750 Inches

PHYSICAL DIMENSIONS

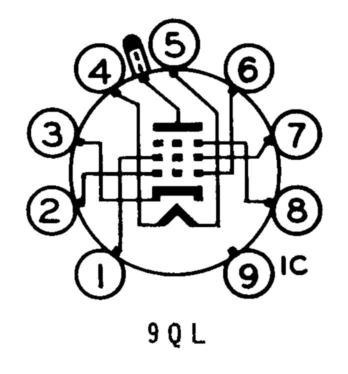


12–117

TERMINAL CONNECTIONS

Pin 1 – Grid No. 2
Pin 2 – Grid No. 1
Pin 3 – Cathode
Pin 4 – Heater
Pin 5 – Heater
Pin 6 – Grid No. 1
Pin 7 – Grid No. 2
Pin 8 – Grid No. 3
Pin 9 – Internal Connection (Do Not Use)
Top Cap – Plate

BASING DIAGRAM



9QL



Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

MAXIMUM RATINGS

HORIZONTAL-DEFLECTION AMPLIFIER —DESIGN-MAXIMUM VALUES

Parameter	Value	Unit
DC Plate Supply Voltage	990	Volts
Peak Positive-Pulse Plate Voltage ⊕	7500	Volts
Peak Negative-Pulse Plate Voltage	1100	Volts
DC Grid-No. 3 Voltage ‡	75	Volts
DC Grid-No. 2 (Screen-Grid) Voltage	220	Volts
Peak Negative-Pulse Grid-No. 1 (Control-Grid) Voltage	330	Volts
Heater-Cathode Voltage		
Peak	±200	Volts
Average	100	Volts
Heater Voltage, ac or dc	5.7 to 6.9	Volts
Cathode Current		
Peak	1200	Milliamperes
Average	350	Milliamperes
Grid-No. 2 Input	5	Watts
Plate Dissipation §	30	Watts
Temporary Overload Plate Dissipation #	200	Watts
Envelope Temperature (at hottest point on envelope surface)	250 °	C

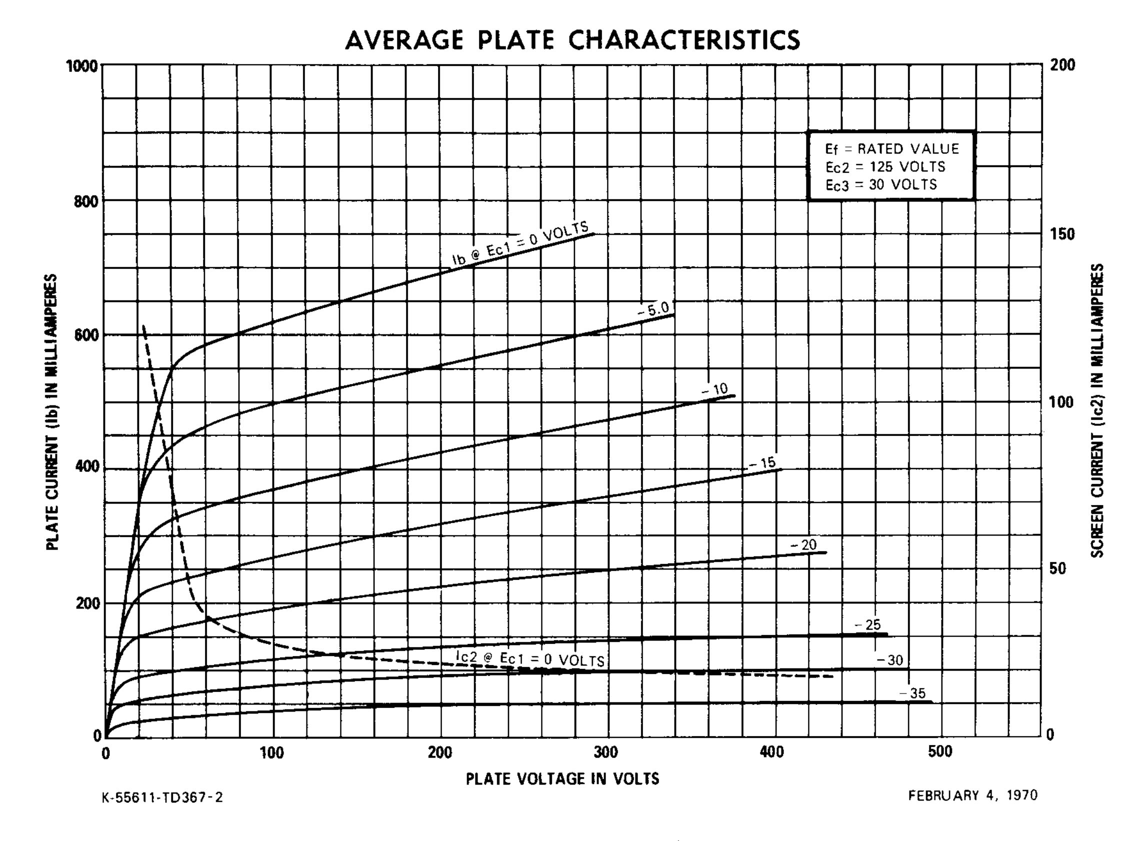
MAXIMUM CIRCUIT VALUES

Parameter	Value	Unit
Grid No. 1 Circuit Resistance		
For Grid-No. 1 resistor-bias operation	0.47	MΩ
For Plate-pulsed operation (horizontal-deflection circuits only)	10	MΩ

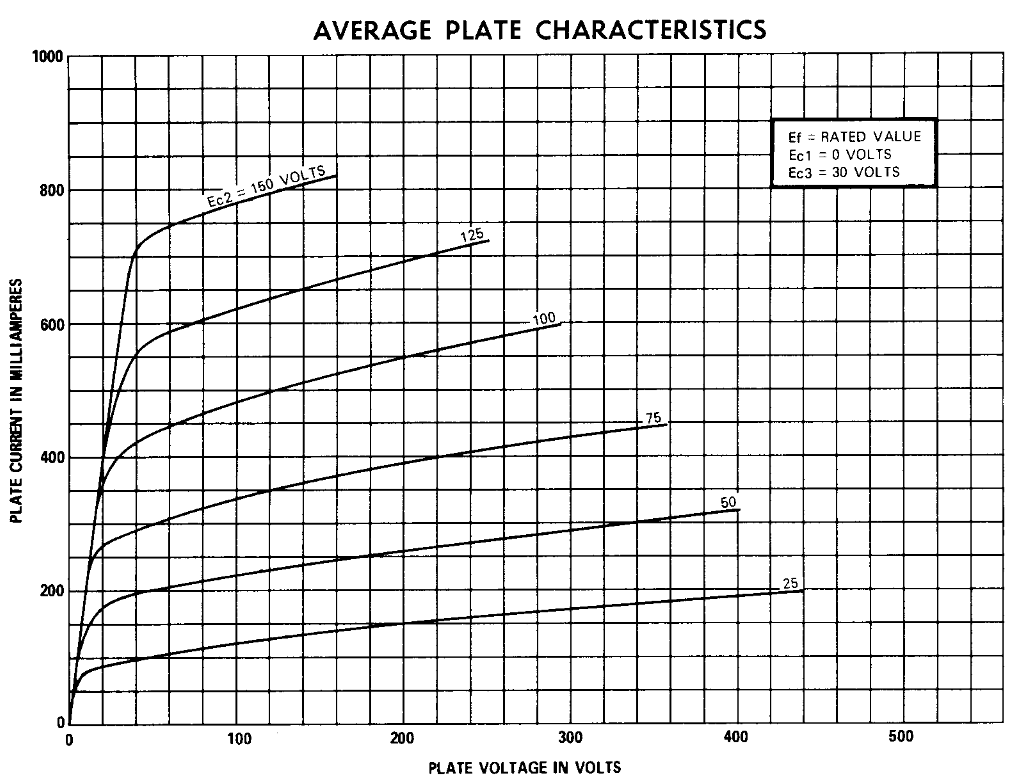
CHARACTERISTICS AND TYPICAL OPERATION

Parameter							Unit
Amplification Factor (Triode Connection) ♦	– –	– –	3 ▲	– –	– –	2.8 ●	
Plate Resistance (Approx.)	– –	– –	5800	– –	– –	7000	Ω
Transconductance	– –	– –	9600	– –	– –	7500	μ mho
DC Plate Current	– –	580 *	130	– –	710 *	95	Milliampere
DC Grid No.2 Current	– –	40 *	2.8	– –	55 *	2.4	Milliampere
Cutoff DC Grid No. 1 Voltage for I_b=1mA	–120	– –	–54	125	– –	–60	Volt
Heater Voltage	← BOGEY VALUE →						Volt
Peak Positive-Pulse Plate Voltage †	5000	– –	– –	5000	– –	– –	Volt
DC Plate Voltage	– –	55	175	– –	60	175	Volt
DC Grid No. 3 Voltage	30	30	30	30	30	30	Volt
DC Grid No. 2 Voltage	125	125	125	145	145	145	Volt
DC Grid No. 1 Voltage	– –	0	–25	– –	0	–35	Volt

AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS



NOTES

- • Without external shield.

♦ With gried No. 3 and grid No. 2 connected respectively to cathode and plate at socket.

▲ Conditions: $E_b = E_{c2} = 125$ V, $E_{c1} = -25$ V.

• Conditions: $E_b = E_{c2} = 145$ V, $E_{c1} = -35$ V.

★ This value can be measured by a method involving a re current waveform such that the Maximum Ratings of the tube will not be exceeded.

† Under pulse–duration condition specified in Footnote ⊕

⊕ For operation in a 525–line, 30 frame television system as desrcibed in ''Standards of Good Engineering Pract– ice Concerning Television Broadcast Stations,'' Fed – eral Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

‡ In horizontal–deflection–amplifier swrvice, a positive voltage should be applied to grid No. 3 to reduce inter– ference from ''snivets'' which may occur in both vhf and uhf television receivers, and to increase power output. A typical value is 30 V.

§ An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

Total continuous or accumulated time not to exceed 40 seconds.

